

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Yan



Serial No.: 09/997,240

#11

Filed: November 30, 2001

Art Unit: To Be Assigned

Examiner: To Be Assigned

Atty. Docket: 0249-0001

For: Isolated Homozygous Stem Cells,  
Differentiated Cells Derived Therefrom, And  
Materials And Methods For Making And Using

Same

05/07/2002 HHARZII 00000058 09997240

01 FC:202  
02 FC:203

420.00 OP  
144.00 OP

Adjustment dates 08/02/2002 YGIZAW  
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01 FC:202  
02 FC:203

-420.00 OP  
-144.00 OP

## PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, Applicant(s) herewith respectfully requests the following amendment:

IN THE CLAIMS:

Please add the following new claims

73. (New) An isolated homozygous stem cell derived from a method comprising:
- (a) producing a mitotically activated homozygous post-meiosis I diploid germ cell by allowing the extrusion of the second polar body and spontaneous self-replication under appropriate conditions;
  - (b) culturing said activated homozygous post-meiosis I diploid germ cell to form a blastocyst-like mass; and,
  - (c) isolating homozygous stem cells from the inner cell mass of said blastocyst-like mass.

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01 FC:102  
02 FC:103

276.00 CH  
324.00 CH

564.00 OP



77. (New) A method of making a desired progenitor cell, differentiated cell, group of differentiated cells, or tissue type comprising inducing isolated homozygous stem cells created by the method of claim 73 or 75 to differentiate under suitable conditions.
78. (New) An isolated homozygous stem cell derived from a method comprising:
  - (a) producing a mitotically activated homozygous post-meiosis I diploid germ cell by preventing the extrusion of the second polar body during oogenesis;
  - (b) culturing said activated homozygous post-meiosis I diploid germ cell to form a blastocyst-like mass; and,
  - (c) isolating homozygous stem cells from the inner cell mass of said blastocyst-like mass.
79. (New) A method of producing homozygous stem cells comprising:
  - (a) producing a mitotically activated homozygous post-meiosis I diploid germ cell by preventing the extrusion of the second polar body during oogenesis;
  - (b) culturing said activated homozygous post-meiosis I diploid germ cell to form a blastocyst-like mass; and,
  - (c) isolating homozygous stem cells from the inner cell mass of said blastocyst-like mass.
80. (New) An isolated homozygous stem cell derived from a method comprising:
  - (a) isolating a homozygous post-meiosis I diploid germ cell, wherein said germ cell is an oocyte which matured to metaphase II *in vivo*;
  - (b) mitotically activating said metaphase II oocyte by preventing the extrusion of the second polar body during oogenesis;
  - (c) culturing said activated metaphase II oocyte to form a blastocyst-like mass; and,

- (d) isolating homozygous stem cells from the inner cell mass of said blastocyst-like mass.
81. (New) A method of producing homozygous stem cells comprising:
- (a) isolating a homozygous post-meiosis I diploid germ cell, wherein said germ cell is an oocyte which matured to metaphase II *in vivo*;
  - (b) mitotically activating said metaphase II oocyte by preventing the extrusion of the second polar body during oogenesis;
  - (c) culturing said activated metaphase II oocyte to form a blastocyst-like mass; and,
  - (d) isolating homozygous stem cells from the inner cell mass of said blastocyst-like mass.
82. (New) An isolated homozygous stem cell derived from a method comprising:
- (a) producing a mitotically activated homozygous post-meiosis I diploid germ cell by: fusing two oocytes or two spermatids, preventing the extrusion of the second polar body during oogenesis, allowing the extrusion of the second polar body and spontaneous self-replication under appropriate conditions, or transferring two sperm or two haploid egg nuclei into an enucleated oocyte;
  - (b) culturing said activated homozygous post-meiosis I diploid germ cell to form a blastocyst-like mass;
  - (c) transplanting said blastocyst-like mass into an animal host to create a stemplasm; and,
  - (d) isolating homozygous stem cells from said stemplasm.
83. (New) An isolated homozygous stem cell derived from the method of claim 82, further comprising screening stem cells that are homozygous by genotyping when a mitotically activated post-meiosis I diploid germ cell is produced by (a) fusing two

oocytes or two spermatids, or (b) transferring two sperm or two haploid egg nuclei into an enucleated oocyte.

84. (New) An isolated homozygous stem cell derived from the method of claim 82, wherein said blastocyst-like mass is transplanted under the kidney capsule.

85. (New) A method of producing homozygous stem cells comprising:

- (a) producing a mitotically activated homozygous post-meiosis I diploid germ cell by: fusing two oocytes or two spermatids, preventing the extrusion of the second polar body during oogenesis, allowing the extrusion of the second polar body and spontaneous self-replication under appropriate conditions, or transferring two sperm or two haploid egg nuclei into an enucleated oocyte;
- (b) culturing said activated homozygous post-meiosis I diploid germ cell to form a blastocyst-like mass;
- (c) transplanting said blastocyst-like mass into an animal host to create a stemplasm; and,
- (d) isolating homozygous stem cells from said stemplasm.

86. (New) The method of claim 85, further comprising screening stem cells that are homozygous by genotyping when a mitotically activated post-meiosis I diploid germ cell is produced by (a) fusing two oocytes or two spermatids, or (b) transferring two sperm or two haploid egg nuclei into an enucleated oocyte.

87. (New) The method of claim 85, wherein said blastocyst-like mass is transplanted under the kidney capsule.

88. (New) A method of making a desired progenitor cell, differentiated cell, group of differentiated cells, or tissue type comprising inducing isolated homozygous stem cells created by the method of claim 78, 80, 82, or 85 to differentiate under suitable conditions.

